

is a plastic. Specifically, attached hereto as Exhibit A please find a copy of a portion of the 1993 Guide for the Preparation of Patent Drawings. At page A-3-3 of the Guide, it shows sectioning for plastic, which is identical to the sectioning in the figure of Mancini. Accordingly, it is clear that Mancini teaches the use of a plastic insulating layer in conjunction with eyelet fastener 10.

Generally speaking, the pending claims concern a circuit device comprising a porcelain enameled metal substrate having a circuit formed therein and an external electrical conductor attached thereto. The porcelain enamel metal substrate includes an aperture having a fastener mounted thereon, with the electrical conductor being soldered to the fastener. The claims also concern a method of forming such circuit device.

Applicants respectfully submit that the Mancini reference does not disclose or suggest applicants' claimed invention. There is absolutely no motivation or suggestion in the prior art to modify the plastic insulative layer 42 of Mancini so as to provide a porcelain enamel layer.

Applicants submit that the use of a fastener in connection with porcelain enamel is far from obvious. Specifically, porcelain enamel has considerably different properties as compared to the plastic insulative layers that have been employed in the prior art in connection with fasteners. It was not obvious to applicants that fasteners would be compatible with porcelain enamel. More particularly, there were concerns with cracking and a degradation of solder joint integrity. However, quite unexpectedly, applicants have found that cracking of the porcelain enamel layer does not occur, and more importantly, solder joint integrity and strength is vastly improved.

Applicants submit that only by viewing applicants' specification with hindsight would one be motivated to employ a fastener for attaching a wire to a porcelain enameled metal substrate.

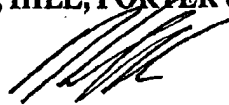
There is nothing in the prior art that suggests that the use of a fastener on a porcelain enamel metal substrate will yield an improved connection.

The elements of the pending dependent claims further patentably distinguish applicants' invention. Specifically, claims 2 and 11 define the external conductor as wire, claims 3 and 7 define the fastener as an eyelet comprising brass, claims 6, 8, 9 and 16 define the relationship and connection of the fastener with the surface and circuit of the device. Claim 14 define the fastener being insulated from the substrate, claim 17 defines a circuit on both sides of the substrate and claim 18 defines the fastener as electrically connecting circuits formed on each side of the substrate.

In light of the foregoing, it is submitted that this application is in condition for allowance, and a notice to that effect is earnestly solicited.

Respectfully submitted,

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14. A circuit device as set forth in claim [1] 11 wherein said fastener is electrically insulated from said metal substrate.

15. A circuit device as set forth in claim [1] 11 wherein said metal substrate comprises low carbon steel.